Flexible MiniPCI Express Riser

Hardware Manual

June 01, 2011
Revision 1.1

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1 About this Document

1.1 Purpose

This document describes Hardware installation, features, specification and operation for AMFELTEC Flexible MiniPCI Express Riser (SKU-055).

1.2 Feedback

AMFELTEC Corp. makes every effort to ensure that the information contained in this document is accurate and complete at time of release. Please contact AMFELTEC Corp. if you find any errors, inconsistence or have trouble understanding any part of this document.

To provide your feedback, please send an email to support@amfeltec.com

Your comments or corrections are greatly valued in our effort for excellence and continued improvement.

1.3 Revision History

Rev. No.	Description	Rev. Date
1.0	Initial Release.	March 10, 2011
1.1	Update hardware installation instructions	June 01, 2011

2 General Description

2.1 Introduction

Flexible MiniPCI Express Riser (Riser) (Figure 1/Figure 2) is designed to extend MiniPCI Express bus. It includes MiniPCI Express (half or full) host card (Figure 3/Figure 4) and MiniPCI Express adapter board (Figure 5).



Figure 1: Flexible MiniPCI Express (full) Riser



Figure 2: Flexible MiniPCI Express (half) Riser

The MiniPCI Express Host Card has to be plugged into an upstream MiniPCI Express motherboard connector. MiniPCI Express Adapter board connects to the MiniPCI Express Host Card via 12” PCI Express Flex cable. The expansion MiniPCI express add-in board has to be plugged into the standard MiniPCI express connector on the MiniPCI Express Adapter board.

Because of the flexible nature of the connection (unlike traditional rigid risers), expansion add-in MiniPCI Express board can be positioned away from the MiniPCI Express connector on the motherboard inside a computer chassis.

MiniPCI Express Adapter board has two mounting holes allowing them to be securely fixed inside a computer chassis.



Figure 3: MiniPCI Express (full) Host Card



Figure 4: MiniPCI Express (half) Host card

The Adapter functions right out of the box, no additional software needs to be installed. The Mini PCI Host Card has LEDs for displaying downstream PCI express Link status as well as expansion MiniPCI express add-in board “PRESENT” status.



Figure 5: MiniPCI Express Adapter board

3 Requirements/Features

3.1 Power Source

The power for MiniPCI Express add-in board (3.3V and 1.5V) is supplied via MiniPCI Express connector. MiniPCI Express Adapter board has standard 4-pin "Floppy drive" power connector for getting 5V power from standard ATX power supply or 3.3V power from Mini PCI Host card.

3.2 Software

There is no software needed for normal operation.

4 Hardware Description

4.1 Board Layout

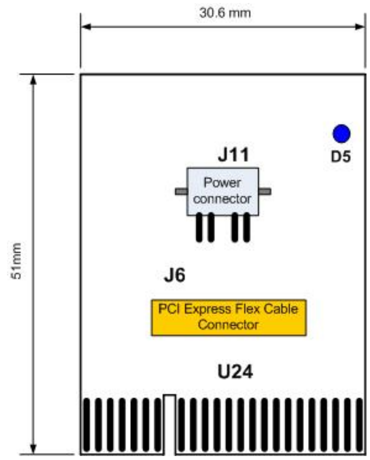


Figure 6: MiniPCI Express (full) Host Card layout

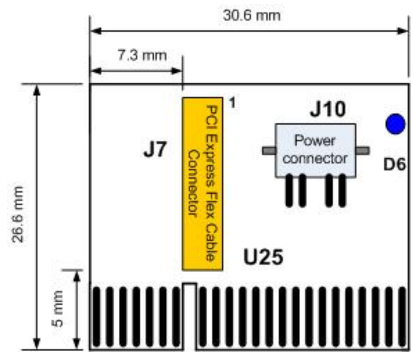


Figure 7: MiniPCI Express (half) Host card layout

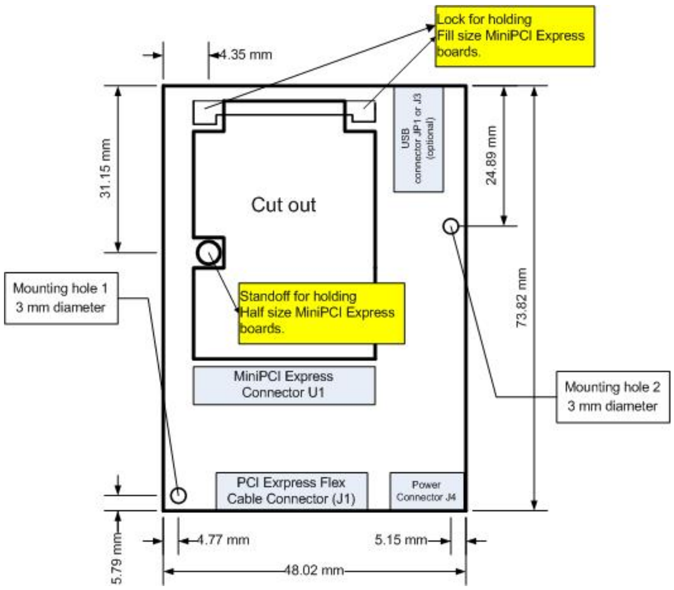


Figure 8: MiniPCI Express Adapter board layout

4.2 LEDs

Name	RefDes	Color	Usage
PRESENT	D5	Blue	“PRSNT” signal from expansion PCI Express add-in board. (in case full size Interface board)
PRESENT	D6	Blue	“PRSNT” signal from expansion PCI Express add-in board. (in case half size Interface board)

Table 1: MiniPCI Express Host Card LEDs

4.3 Connectors

RefDes	Type	Usage
U24	Upstream MiniPCI Express connector	Connection to the upstream MiniPCI Express bus on the motherboard (full size Interface board)
U25	Upstream MiniPCI Express connector	Connection to the upstream MiniPCI Express bus on the motherboard (half size Interface board)
J11	Power connector	Optional (3.3V only) (full size Interface board)
J10	Power connector	Optional (3.3V only) (half size Interface board)
J6	PCI Express Flex Cable connector	Connector via Flex PCI Express Cable to the x1 PCI Express adapter boards.(full size Interface board)
J7	PCI Express Flex Cable connector	Connector via Flex PCI Express Cable to the x1 PCI Express adapter boards.(half size Interface board)

Table 2: MiniPCI Express Host Card connectors

RefDes	Type	Usage
J1	PCI Express Flex Cable connector	Connection via Flex PCI Express Cable to the MiniPCI Host Card.
J4	Standard ATX power connector (“floppy disk” type)	Incoming power for the expansion add-in MiniPCI Express board
JP1	10 pins 2 row 2.5mm Header	Connection to the USB interface of the MiniPCI Express add-in board (optional)
J3	USB type B standard connector	Connection to the USB interface of the MiniPCI Express add-in board (optional)
U1	Standard Mini PCI Express connector	Connection to the expansion add-in PCI boards (supports full and half size MiniPCI Express boards).

Table 3: MiniPCI Express Adapter board connectors

5 Installation

5.1 Hardware Installation

Following steps provide the exact sequence need to be followed in order to properly install the MiniPCI Express Riser from AMFELTEC Corp.:

Warning: Before touching anything inside the computer or any components, be sure to discharge your body's static electricity by touching a grounded surface.

- Turn off host computer and unplug it from the wall outlet.
- Remove the chassis cover or side panel from host computer. Refer to the computer manual for instructions if you need them.
- If the unit is a tower unit, turn it over on its side to make access easier.
- Ground yourself to the PC case. Attach a grounding wrist strap (if available) to the computer's metal chassis and your wrist. **CAUTION**: If you choose not to use the grounding wrist strap, be sure to take adequate precautions to discharge static electricity from your body before touching any components.
- Insert PCI Express Flex Cable into the connectors on the MiniPCI Express Host card and on the MiniPCI Express Adapter.
- Install the host card into the motherboard MiniPCI Express slot.
- Place and retain MiniPCI Express Adapter inside the chassis.
- Connect power to the MiniPCI Express Adapter.
- Insert expansion add-in MiniPCI Express board into MiniPCI Express connector on MiniPCI Express Adapter. Do not let it touch any of the components on the motherboard or MiniPCI Express Adapter.
- Now, you can close computer cover and power-up the host computer.

BE SURE THAT GREEN LED D4 and BLUE LED D3 ARE ON!

(Downstream Link status and MiniPCI Express Adapter board PRESENT)

6 Ordering Information

6.1 Standard package

Standard package include the following components:

- MiniPCI Express Host Card
- MiniPCI Express Adapter board with PCI Express Flex cable
- User manual

7 Appendix A: Limited warranty

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